Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1-38. **(Canceled)**

39. **(Previously Presented)** A crystal of *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase having the monoclinic space group symmetry $P2_1$.

40. **(Previously Presented)** A crystal of *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising a unit cell having dimensions of a, b, and c; wherein a is about 40Å to about 60Å, b is about 90Å to about 120Å, and c is about 80Å to about 110Å; and wherein $\alpha = \gamma = 90°$ and β is about 80° to about 120°.

41. **(Previously Presented)** A crystal of *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising atoms arranged in a spatial relationship represented by the structure coordinates listed in Table 1.

42. **(Previously Presented)** A crystal of *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase having amino acid sequence SEQ ID NO:1.

43. **(Previously Presented)** A crystal of *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase having amino acid sequence SEQ ID NO:1, with the proviso that at least one methionine is replaced with selenomethionine.

44. **(Previously Presented)** A method for crystallizing *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising:

providing purified *S. aureus* NAD synthetase at a concentration of about 1 mg/ml to about 50 mg/ml; and

forming a crystal of *S. aureus* NAD synthetase from a solution comprising about 5% by weight to about 50% by weight polyethylene glycol (PEG) and about 0% by weight to about 20% by weight dimethyl sulfoxide (DMSO),

wherein the crystal has the monoclinic space group symmetry $P2_1$.

45. **(Previously Presented)** The method of claim 44 wherein the solution comprises 18% by weight to 22% by weight PEG 1500.

46. **(Previously Presented)** A method for crystallizing *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising:

providing purified *S. aureus* NAD synthetase at a concentration of about 1 mg/ml to about 50 mg/ml; and

forming a crystal of *S. aureus* NAD synthetase from a solution comprising about 5% by weight to about 50% by weight polyethylene glycol (PEG) and about 0% by weight to about 20% by weight dimethyl sulfoxide (DMSO),

wherein the crystal comprises a unit cell having dimensions of a, b, and c; wherein a is about 40Å to about 60Å, b is about 90Å to about 120Å, and c is about 80Å to about 110Å; and wherein $\alpha = \gamma = 90°$ and β is about 80° to about 120°.

47. **(Previously Presented)** The method of claim 46 wherein the solution comprises 18% by weight to 22% by weight PEG 1500.

48. **(Previously Presented)** A method for crystallizing *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising:

providing purified *S. aureus* NAD synthetase at a concentration of about 1 mg/ml to about 50 mg/ml; and

forming a crystal of *S. aureus* NAD synthetase from a solution comprising about 5% by weight to about 50% by weight polyethylene glycol (PEG) and about 0% by weight to about 20% by weight dimethyl sulfoxide (DMSO),

wherein the crystal comprises atoms arranged in a spatial relationship represented by the structure coordinates listed in Table 1.

49. **(Previously Presented)** The method of claim 48 wherein the solution comprises 18% by weight to 22% by weight PEG 1500.

50. **(Previously Presented)** A method for crystallizing *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising:

providing purified *S. aureus* NAD synthetase at a concentration of about 1 mg/ml to about 50 mg/ml; and

forming a crystal of *S. aureus* NAD synthetase from a solution comprising about 5% by weight to about 50% by weight polyethylene glycol (PEG) and about 0% by weight to about 20% by weight dimethyl sulfoxide (DMSO),

wherein the crystal of *S. aureus* NAD synthetase has an *S. aureus* NAD synthetase amino acid sequence SEQ ID NO:1.

51. **(Previously Presented)** The method of claim 50 wherein the solution comprises 18% by weight to 22% by weight PEG 1500.

52. **(Previously Presented)** A method for crystallizing *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising:

providing purified *S. aureus* NAD synthetase at a concentration of about 1 mg/ml to about 50 mg/ml; and

forming a crystal of *S. aureus* NAD synthetase from a solution comprising about 5% by weight to about 50% by weight polyethylene glycol (PEG) and about 0% by weight to about 20% by weight dimethyl sulfoxide (DMSO),

wherein the crystal of *S. aureus* NAD synthetase has an *S. aureus* NAD synthetase amino acid sequence SEQ ID NO:1, except that at least one methionine is replaced with selenomethionine.

53. **(Previously Presented)** The method of claim 52 wherein the solution comprises 18% by weight to 22% by weight PEG 1500.

54. **(Currently Amended)** A crystal of *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase, wherein the crystal ~~effectively~~ diffracts x-rays to a resolution of 1.5Å to 3Å.

55. **(Previously Presented)** The crystal of claim 54 wherein the resolution is at least 2.2Å.

56. **(Currently Amended)** A method for crystallizing *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising:

providing purified *S. aureus* NAD synthetase at a concentration of about 1 mg/ml to about 50 mg/ml; and

forming a crystal of *S. aureus* NAD synthetase from a solution comprising about 5% by weight to about 50% by weight polyethylene glycol (PEG) and about 0% by weight to about 20% by weight dimethyl sulfoxide (DMSO),

wherein the crystal ~~effectively~~ diffracts x-rays to a resolution of 1.5Å to 3Å.

57. **(Previously Presented)** The method of claim 56 wherein the resolution is at least 2.2Å.

58. **(Previously Presented)** A crystal of *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase, wherein the crystal has at least one dimension of 0.15-0.8 mm.

59. **(Previously Presented)** The crystal of claim 58 having dimensions of 0.15-0.8 mm x 0.2 mm x 0.05-0.1 mm.

60. **(Currently Amended)** The crystal of claim 58 wherein the crystal ~~effectively~~ diffracts x-rays to a resolution of 1.5Å to 3Å.

61. **(Previously Presented)** The crystal of claim 60 wherein the resolution is at least 2.2Å.

62. **(Previously Presented)** A method for crystallizing *Staphylococcus aureus* nicotinamide adenine dinucleotide (*S. aureus* NAD) synthetase comprising:

providing purified *S. aureus* NAD synthetase at a concentration of about 1 mg/ml to about 50 mg/ml; and

forming a crystal of *S. aureus* NAD synthetase from a solution comprising about 5% by weight to about 50% by weight polyethylene glycol (PEG) and about 0% by weight to about 20% by weight dimethyl sulfoxide (DMSO),

wherein the crystal has at least one dimension of 0.15-0.8 mm.

63. **(Previously Presented)** The method of claim 62 wherein the crystal has dimensions of 0.15-0.8 mm x 0.2 mm x 0.05-0.1 mm.

64. **(Currently Amended)** The method of claim 62 wherein the crystal ~~effectively~~ diffracts x-rays to a resolution of 1.5Å to 3Å.

65. **(Previously Presented)** The method of claim 64 wherein the resolution is at least 2.2Å.

66. **(Canceled)**